

REMARKS

This amendment is responsive to the Office action made final mailed October 22, 1999 for the above-captioned application. Claims 15-24 have been allowed. Claims 6 and 8 have been objected to as being dependent on a rejected base claim. Claims 1, 4, 5, 7, 9-11, and 13-14 have been rejected under 35 USC 102(b). Claim 12 has been rejected under 35 USC 103(a). Claims 6, 8 and 12 have been amended. No claims have been canceled. No new claims have been added. Claims 1 and 4-24 remain pending.

Objections

Claims 6 and 8 have been objected to as being dependent on a rejected base claim, but said to be allowable if rewritten in independent format including all the limitations of the base claim and any intervening claims. Claims 6 and 8 have been so rewritten.

Section 102 Rejections

Claims 1, 4, 5, 7, 9-11, 13 and 14 have been rejected under 35 USC 102(b) as being anticipated by Delacy (US Patent No. 4,734,868). This rejection is respectfully traversed. Withdrawal of the rejection is requested.

Delacy discloses a method for accurate paper advancement as described in the prior amendment. Specifically, DeLacy relies on closely-spaced demarcations on the edge of the media sheet being printed. When the inking device advances to a next line, the nearest demarcation is used to register precisely where to place the print line. In one embodiment, Delacy discloses applying the demarcations to the media sheet. Apparently, the examiner relies on such embodiment as teaching applicants' claim element for "printing

... a test plot having a plurality of non-overlapping areas, each area being a common image." See DeLacy at Col. 10, lines 31-34 as cited by the examiner. However, applicants' rejected independent claims 1 and 7 recite additional limitations for the element of "printing." Specifically, each of the non-overlapping areas of a common image are "printed using a different value of the swath height error adjustment." DeLacy does not space his demarcations at differing intervals. To the contrary, the demarcations are placed at regular, equally-spaced intervals, (DeLacy at col. 9, lines 59-62 and col. 10, lines 45-47).

Another claim limitation which distinguishes over Delacy is the limitation in which an input is received indicating which one area of the plurality of areas of the common image exhibits the absence of, or least amount of banding. As described above, the common image is the demarcation in DeLacy. There is no disclosure that the demarcation of DeLacy exhibits banding, nor that one of the demarcations is selected because it exhibits the absence of or the least amount of banding.

These distinctions between DeLacy and the claimed subject matter appear to relate to DeLacy not being a calibration process. DeLacy does not calibrate a swath height error, then store it for use during subsequent print jobs. Instead, DeLacy avoids swath height error calibration by registering each line in run-time to evenly-spaced demarcations. This distinction is significant with regard to independent claim 7 which is for a method of calibrating a normal value for a linefeed error adjustment parameter. DeLacy does not teach or suggest calibrating a normal value. Specifically, DeLacy does not disclose the claim 7 step of setting the normal value of the linefeed error adjustment parameter to the value corresponding to the indicated one area.

The examiner asserts that DeLacy inherently executes the various limitations of the rejected claims. Specifically, the examiner recites as inherent that in DeLacy "the operator will run a test plot at a first arbitrary setting and will then vary that setting and run a second non-overlapping test plot at a second setting." However inherency requires that a structure in the prior art necessarily functions in accordance with the limitations of a process or method claim of an application. See In Re King, 801 F.2d 1324, 231 USPQ 136,138 (Fed. Cir. 1986); also see Standard Oil Co. v. Montedison, S.P.S., 664 F.2d 356, 372, 212 USPQ 327, 341 (3d Cir. 1981), cert denied 456 US 915, 215 USPQ 95 (1982), (for a claim to be inherent in the prior art it "is not sufficient that a person following the disclosure sometimes obtain the result set forth in the [claim]; it must invariably happen."

As support for the alleged inherency, the examiner relies on the DeLacy disclosure at col. 11, lines 49-51 - "By selecting the paper stepping distance to be exactly the width of each print line or swath 3, the above paper position feedback scheme provides means for positioning successive printings within an accuracy of a few micrometers." It is respectfully submitted that such recitation does not inherently mean that the operator will run a test plot at a first arbitrary setting and will then vary that setting and run a second non-overlapping test plot at a second setting. DeLacy teaches a closed loop feedback signal for paper positioning relative to an observed or enforced demarcation (as opposed to absolute positioning) for swath printing. (Col. 13, lines 24-29). Such feedback signal can identify the swath length. Accordingly, trial and error calibration need not be performed to set the paper advance distance. The paper transport can thus be made to move in continuous, incremental or bidirectional sequences. (Col. 13, lines 21-23).

The inherency relied on by the examiner is not supported by the disclosure. Although the examiner must use judgement in selecting and applying prior art teachings, it is impermissible simply to engage in hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps. In re Gorman, 933 F.2d 982, 18 USPQ.2d 1885 (Fed. Cir. 1991). Accordingly, withdrawal of the rejections to claims 1, 4, 5, 7, 9-11, 13 and 14 is respectfully requested.

Section 103 Rejection

Claim 12 has been rejected under 35 USC 103(a) as being unpatentable over DeLacy. Claim 12 includes the steps of identifying a media finish and deriving a temporary linefeed error parameter as a function of the identified finish and a normal parameter value. The examiner asserts that DeLacy teaches that banding artifacts are sensitive to media finish. In particular the examiner relies on the passage of DeLacy at col. 4, line 18, "all to-be-printed material with reference to media for printing will be referred to simply as paper." Applicant respectfully submits that such passage does not support the examiner's conclusion. There is no suggestion in such phrase that calibration should be performed for different media finishes or that adjustments should be made for different media finishes. DeLacy teaches elsewhere that paper thickness can affect banding, but does not disclose or suggest anything in regard to paper finishes. Accordingly, the rejection of claim 12 is respectfully traversed.

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Conclusion:


In view of the above remarks regarding the cited art, it is respectfully submitted that the claims contain key limitations that are not present in the cited art and not obvious from the cited art. These particular limitations, are not disclosed in or suggested by any of the cited references. These limitations are significant advances over the prior art and resulted in a novel method and apparatus for calibrating linefeed error adjustment and swath height error adjustment, and for printing based upon such calibrations and changes to such calibrations.

In view of the above remarks and amendments to the claims, it is respectfully submitted that the claims are now in condition for allowance. The Examiner's action to that end is respectfully requested.

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the application, the Examiner is invited to call the undersigned attorney at the telephone number given below.

Respectfully submitted,

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